

# Vehicle inspectors bulletin



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## Requirements for large trailers equipped with electrically operated brakes

This bulletin is issued to clarify the minimum requirements and to outline the testing procedures for electric braking systems fitted to large trailers.

The Road Transport (Vehicle Registration) Regulation 2007 requires that all trailers with a Gross Trailer Mass (GTM) exceeding 2 tonnes be provided with a braking system which will operate automatically and promptly upon breakaway of the trailer from its towing vehicle, and that such application should be maintained for at least fifteen minutes.

Such trailers, if fitted with electrically actuated braking systems, must be equipped with a device which applies the brakes in the event of a breakaway from the towing vehicle and maintains application for at least fifteen minutes. It is essential therefore, that an energy source, such as a battery, be carried on the trailer and that means be provided to ensure that the battery is maintained in a fully energised condition. In this regard, it will be satisfactory if any trailer-mounted battery is constantly charged by the towing vehicle and a warning device is fitted to warn the driver (from the normal driving position) if the trailer battery charge falls to such a level as to render the trailer brakes incapable of meeting the requirements.

Trailers required to be fitted with breakaway systems are not registerable if there is no means for maintaining the breakaway energy source in a fully-energised condition (for example, if a charging and warning circuit is not fitted). An acceptable warning circuit must incorporate either a visual or an audible warning device.

The earthing system between the electric brake units and the trailer chassis must be by an earth wire and not via suspension components or wheel bearings.

In order to vary the trailer braking effect in unison with the towing vehicle, some trailer brake controllers use a pressure sensing device fitted to the towing vehicle's brake system. The controller and its connections should be examined for any hydraulic leaks. If the vehicle is subject to ADR31/--, *Hydraulic Braking Systems in Passenger Cars* or ADR35/--, *Commercial Vehicle Brake Systems*, installation of the control unit must not change the design of the towing vehicles' braking system. In particular, all the functions of the dual circuit system must be retained.

Whenever a trailer is presented for inspection, the towing vehicle must be equipped with a compatible charging system which is connected to the trailer and is fully operable. Any vehicle not so equipped must be rejected.

Any trailer equipped with electric brakes, must have a label affixed which states that ... any towing vehicle must be equipped with an acceptable charging/warning circuit.

Test procedures for electric brake systems are outlined on pages 2 and 3.

For: • RTA Inspectors Vehicle Regulation • Engineering Signatories • AIS Proprietors & Examiners  
• RTA Registry Service Managers • HVAIS Proprietors & Examiners • AUVIS Proprietors & Examiners

# Test procedures for electric brake systems

CHECK	METHOD OF INSPECTION	REASON FOR REJECTION
1. Battery and associated wiring	Visual	1. Battery insecure. 2. Wiring is not secured at 600mm intervals. 3. Insulation is damaged. 4. Wiring fouling moving parts.
2. Earth return from the trailer to the hauling unit.	1. Visual 2. Disconnect trailer from the hauling unit	With the trailer disconnected, the brakes on the trailer do not operate correctly.
3. Earth return from brake foundation unit to chassis	Visual	Missing or damaged direct positive earth system.
4. Battery condition indicator device	Visual	No indicator or warning device is fitted or is inoperative.
5. Breakaway protection system operation	Disconnect trailer wiring plug from hauling unit	1. Trailer brakes do not apply immediately when the trailer wiring plug is disconnected from hauling unit. 2. Trailer brakes do not remain applied for at least 15 minutes.

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Test procedures for electric brake systems (continued from page 2)

CHECK	METHOD OF INSPECTION	REASON FOR REJECTION
6. Trailer brakes can be applied from the driver's seated position.	Visual	Trailer brakes cannot be applied by the driver whilst retaining normal driving position.
7. Presence of a label indicating that the hauling unit must be equipped with an acceptable charging unit and warning device	Visual	No label is affixed to the trailer.
8. Check any hydraulic brake controller for leaks	Visual	Any indication of an hydraulic leak.
9. Presence of controller override device	Visual	Missing or inoperative control.
10. Braking efficiency	<ol style="list-style-type: none"> <li>1. Use of Roller Brake Testing Machine in accordance with VIB No. 10.</li> <li>2. Where a Roller Brake Testing Machine is not available, test in accordance with Rules 181.03 and 181.04 of Rules for AIS</li> </ol>	<ol style="list-style-type: none"> <li>1. Performance is not in accordance with VIB No 10.</li> <li>2. Performance is not in accordance with Rules 101.03 and 101.04 of Rules for AIS.</li> </ol>



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